

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for providing information on a network storage system, comprising:

receiving, by a storage resource manager, information from at least one host system identifying storage units the host systems access through at least one identified storage system;

probing, by the storage resource manager, the at least one storage system to determine storage units available through the storage system and an identifier of the storage system, wherein the storage system manages access to the storage units and maintains an assignment of host systems to the storage units; [[and]]

processing, by the storage resource manager, the information received from the host systems on storage units the host systems access and the information probed from the at least one storage system on the storage units available through the storage system;

for each storage system determined by probing the at least one storage system, querying, by the storage resource manager, the information received from the host systems on storage units accessed by the host systems to determine at least one host system attached to storage units whose storage unit identifiers match storage unit identifiers available through the storage system; and

generating, for each storage system determined by probing the at least one storage system, an association of the determined host systems to storage units for the storage system, wherein the association indicates for each storage system the identifier of the storage system, each storage unit available at the storage system and for each storage unit the at least one host system accessing the storage unit, and wherein the association is generated by using information independently gathered from the host systems and storage systems.

2. (Previously Presented) The method of claim 1, wherein the information from the host systems is gathered by an agent program executing in each host systems that queries the host system to determine the storage units the host system is capable of accessing and the at least one storage system through which the storage units are accessed, and wherein the agent program

transmits the information on the accessible storage units and the at least one determined storage system to the storage resource manager.

3. (Canceled)

4. (Original) The method of claim 2, wherein the agent program determines the accessible storage units and the at least one storage system by issuing at least one inquiry command that is a member of set of an industry standard storage interface.

5. (Original) The method of claim 4, wherein the industry standard storage interface comprises the Small Computer System Interface (SCSI) and wherein the inquiry command comprises a SCSI inquiry command and wherein the storage units comprise Logical Unit Numbers (LUNs).

6. (Original) The method of claim 2, wherein the agent program determines the accessible storage units and the at least one storage system by:

issuing a first inquiry command to determine a vendor and model number of the storage system including the accessible at least one storage unit;

determining whether the determined vendor and model number are for a recognizable storage system; and

issuing a second inquiry command to determine the at least one accessible storage unit and the identifier of the storage system having the accessible storage unit if the determined vendor and model number are for one recognizable storage system.

7. (Previously Presented) The method of claim 1, further comprising:
maintaining, by the storage resource manager, in a data repository: (i) host system information including the information received from the host systems identifying the host system and the storage units accessible from that host system and (ii) storage system information probed from the at least one storage system identifying the storage system and the storage units available at through that storage system.

8. (Previously Presented) The method of claim 7, further comprising:
maintaining, by the storage resource manager, host/storage unit assignment information indicating for one storage system the storage units available through that storage system and the host systems that access the available storage units, wherein the host/storage unit assignment information is generated by processing the host system and storage system information in the data repository.

9. (Original) The method of claim 1, wherein probing the at least one storage system comprises using an industry standard storage management interface to access information from the storage system.

10. (Previously Presented) The method of claim 1, wherein the information received from the host systems indicates an operating system used by the host system, wherein the storage resource manager further performs:

generating information on the association of the host systems to storage units for at least one storage system; and

generating information on the operating system used by each host system associated with the storage units.

11-30. (Canceled)

31. (Previously Presented) The method of claim 1, wherein the storage resource manager, host systems, and storage systems are implemented in separate computing devices that communicate over a network.

32. (New) A system in communication with at least one storage system and at least one host system over a network, wherein the at least one storage system controls access to storage units, comprising:

a processing unit; and

a computer readable storage unit including a storage resource manager executed by the processing unit to perform operations, the operations comprising:

receiving, by a storage resource manager, information from at least one host system identifying storage units the host systems access through at least one identified storage system;

probing, by the storage resource manager, the at least one storage system to determine storage units available through the storage system and an identifier of the storage system, wherein the storage system manages access to the storage units and maintains an assignment of host systems to the storage units;

processing, by the storage resource manager, the information received from the host systems on storage units the host systems access and the information probed from the at least one storage system on the storage units available through the storage system;

for each storage system determined by probing the at least one storage system, querying, by the storage resource manager, the information received from the host systems on storage units accessed by the host systems to determine at least one host system attached to storage units whose storage unit identifiers match storage unit identifiers available through the storage system; and

generating, for each storage system determined by probing the at least one storage system, an association of the determined host systems to storage units for the storage system, wherein the association indicates for each storage system the identifier of the storage system, each storage unit available at the storage system and for each storage unit the at least one host system accessing the storage unit, and wherein the association is generated by using information independently gathered from the host systems and storage systems.

33. (New) The system of claim 32, wherein the information from the host systems is gathered by an agent program executing in each host systems that queries the host system to determine the storage units the host system is capable of accessing and the at least one storage system through which the storage units are accessed, and wherein the agent program transmits the information on the accessible storage units and the at least one determined storage system to the storage resource manager.

34. (New) The system of claim 33, wherein the agent program determines the accessible storage units and the at least one storage system by issuing at least one inquiry command that is a member of set of an industry standard storage interface.

35. (New) The system of claim 34, wherein the industry standard storage interface comprises the Small Computer System Interface (SCSI) and wherein the inquiry command comprises a SCSI inquiry command and wherein the storage units comprise Logical Unit Numbers (LUNs).

36. (New) The system of claim 33, wherein the agent program determines the accessible storage units and the at least one storage system by:

issuing a first inquiry command to determine a vendor and model number of the storage system including the accessible at least one storage unit;

determining whether the determined vendor and model number are for a recognizable storage system; and

issuing a second inquiry command to determine the at least one accessible storage unit and the identifier of the storage system having the accessible storage unit if the determined vendor and model number are for one recognizable storage system.

37. (New) The system of claim 32, further comprising:

a data repository including: (i) host system information including the information received from the host systems identifying the host system and the storage units accessible from that host system and (ii) storage system information probed from the at least one storage system identifying the storage system and the storage units available at through that storage system.

38. (New) The system of claim 37, further comprising:

host/storage unit assignment information indicating for one storage system the storage units available through that storage system and the host systems that access the available storage units, wherein the host/storage unit assignment information is generated by processing the host system and storage system information in the data repository.

39. (New) The system of claim 32, wherein probing the at least one storage system comprises using an industry standard storage management interface to access information from the storage system.

40. (New) The system of claim 32, wherein the information received from the host systems indicates an operating system used by the host system, wherein the storage resource manager further performs:

generating information on the association of the host systems to storage units for at least one storage system; and

generating information on the operating system used by each host system associated with the storage units.

41. (New) The system of claim 32, wherein the storage resource manager, host systems, and storage systems are implemented in separate computing devices that communicate over a network.

42. (New) An article of manufacture comprising a computer readable storage medium including a storage resource manager for providing information on a network storage system controlling access to storage units and host systems, wherein the storage resource manager causes operations to be performed, the operations comprising:

receiving, by a storage resource manager, information from at least one host system identifying storage units the host systems access through at least one identified storage system;

probing, by the storage resource manager, the at least one storage system to determine storage units available through the storage system and an identifier of the storage system, wherein the storage system manages access to the storage units and maintains an assignment of host systems to the storage units; and

processing, by the storage resource manager, the information received from the host systems on storage units the host systems access and the information probed from the at least one storage system on the storage units available through the storage system;

for each storage system determined by probing the at least one storage system, querying, by the storage resource manager, the information received from the host systems on storage units

accessed by the host systems to determine at least one host system attached to storage units whose storage unit identifiers match storage unit identifiers available through the storage system; and

generating, for each storage system determined by probing the at least one storage system, an association of the determined host systems to storage units for the storage system, wherein the association indicates for each storage system the identifier of the storage system, each storage unit available at the storage system and for each storage unit the at least one host system accessing the storage unit, and wherein the association is generated by using information independently gathered from the host systems and storage systems.

43. (New) The article of manufacture of claim 42, wherein the information from the host systems is gathered by an agent program executing in each host systems that queries the host system to determine the storage units the host system is capable of accessing and the at least one storage system through which the storage units are accessed, and wherein the agent program transmits the information on the accessible storage units and the at least one determined storage system to the storage resource manager.

44. (New) The article of manufacture of claim 43, wherein the agent program determines the accessible storage units and the at least one storage system by issuing at least one inquiry command that is a member of set of an industry standard storage interface.

45. (New) The article of manufacture of claim 44, wherein the industry standard storage interface comprises the Small Computer System Interface (SCSI) and wherein the inquiry command comprises a SCSI inquiry command and wherein the storage units comprise Logical Unit Numbers (LUNs).

46. (New) The article of manufacture of claim 43, wherein the agent program determines the accessible storage units and the at least one storage system by:

issuing a first inquiry command to determine a vendor and model number of the storage system including the accessible at least one storage unit;

determining whether the determined vendor and model number are for a recognizable storage system; and

issuing a second inquiry command to determine the at least one accessible storage unit and the identifier of the storage system having the accessible storage unit if the determined vendor and model number are for one recognizable storage system.

47. (New) The article of manufacture of claim 42, wherein the operations further comprise:

maintaining, by the storage resource manager, in a data repository: (i) host system information including the information received from the host systems identifying the host system and the storage units accessible from that host system and (ii) storage system information probed from the at least one storage system identifying the storage system and the storage units available at through that storage system.

48. (New) The article of manufacture of claim 47, wherein the operations further comprise:

maintaining, by the storage resource manager, host/storage unit assignment information indicating for one storage system the storage units available through that storage system and the host systems that access the available storage units, wherein the host/storage unit assignment information is generated by processing the host system and storage system information in the data repository.

49. (New) The article of manufacture of claim 42, wherein probing the at least one storage system comprises using an industry standard storage management interface to access information from the storage system.

50. (New) The article of manufacture of claim 42, wherein the information received from the host systems indicates an operating system used by the host system, wherein the storage resource manager further performs:

generating information on the association of the host systems to storage units for at least one storage system; and

generating information on the operating system used by each host system associated with the storage units.

51. (New) The article of manufacture of claim 42, wherein the storage resource manager, host systems, and storage systems are implemented in separate computing devices that communicate over a network.